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Oil & Gas Terminology

Abandon. Filling and sealing of an unused/non-productive well with an approved, impermeable material such as bentonite chips, concrete, or cement in order to permanently plug the well.

Barrel. The basic unit for measuring oil. A barrel is equal to 42 U.S. gallons. Quantities of natural gas and natural gas liquids translated into barrels of oil based on equivalent energy content, hence the term **Barrel of Oil Equivalent (BOE)**. The energy content of six thousand cubic feet of gas (6 MCF) is roughly equivalent to one BOE.

1 barrel of oil = 35 Imperial gallons or 159 litres; where 1 Imperial gallon = 1.2 US gallons

7.5 barrels = 1 tonne or 6.29 barrels = 1 cubic metre

Barrels of Condensate per Day (BCPD). A common unit of measurement for the daily volume of condensate produced by a well.

Bit. The tool used to crush or cut rock. Everything on a drilling rig directly or indirectly assists the bit in crushing or cutting the rock.

Block. Pakistan is divided into blocks using a block system based on latitudes and longitudes; exploration and production rights over these blocks are granted to companies through a formal block award process.

Condensate. Hydrocarbons which are in the gaseous state under reservoir conditions and which become liquid when temperature or pressure is reduced. A mixture of pentanes and higher hydrocarbons.

Crude Oil – Liquid petroleum as it comes out of the ground. Crude oil varies radically in its properties, such as specific gravity and viscosity.

Creaming Theory – A statistical technique which recognises that in any exploration province after an initial period in which the largest fields are found, success rates and average field sizes decline as more exploration wells are drilled and knowledge of the area matures.

Drilling. Boring a hole in the earth for extraction of oil and gas.

Downstream. Those activities in the oil and gas industry which take place away from the source of the supply. Downstream operations commonly include refining and marketing endeavours.

Exploration. The search for oil and gas. Exploration operations include aerial surveys, geophysical surveys, geological studies, core testing and the drilling of test (wildcat) wells.

Field. A geographical area under which an oil or gas reservoir lies.

Fault Trap. A structural trap in the earth, favourable for the retention of petroleum, formed by the cracking and breaking of a rock plane.

Fishing Tool. A general term for special mechanical devices used to aid the recovery of equipment lost downhole.

Flare. To burn unwanted natural gas.

Gas. Natural Gas is Hydrocarbons, which at atmospheric conditions of temperatures and pressure, are in a gaseous phase. Natural gas becomes a liquid at a temperature of -258 degrees Fahrenheit and may be stored and transported in the liquid state. Hydrocarbons found in natural gas which may be extracted or isolated as liquified petroleum gas and natural gasoline are known as Natural gas liquids. Natural gas contaminated with chemical impurities, notably hydrogen sulphide or other sulphur compounds, which cause a foul odour is classified as Sour Gas. Wet Gas is the one which contains liquid hydrocarbons in solution, which may be removed by a reduction of temperature and pressure or by a relatively simple extraction process; on the other hand Dry Gas is also natural gas but it does not contain dissolved liquid hydrocarbons. Casing-head Gas is produced with oil in oil wells and is taken from the well through the casing-head at the top of the well.

Horizontal Drilling. A method of drilling where the drill bit is turned in a horizontal direction in an effort to produce hydrocarbons from a number of areas located at the same approximate depth.

Hydrocarbon. A compound containing only the elements hydrogen and carbon. May exist as a solid, a liquid or a gas. The term is mainly used in a catch-all sense for oil, gas and condensate.

Integrated Company. A company involved in virtually all aspects of the oil and gas industry including exploration, production, transportation, refining and marketing. These companies are also referred to as major oil companies.

Joint - A length of pipe, usually referring to drillpipe, casing or tubing

Kelly. A long square or hexagonal steel bar with a hole drilled through the middle for a fluid path.

Kill. To stop a well from flowing (or having the ability to flow) into the hole or wellbore.

Line Heater. Equipment that transfers heat to the produced gas stream. Heaters are especially used when producing natural gas or condensate to avoid the formation of ice and gas hydrates.

Midstream. A term sometimes used to refer to those industry activities that fall between exploration and production (upstream) and refining and marketing (downstream). The term is most often applied to pipeline transportation of crude oil and natural gas.

Mousehole. A shallow borehole under the rig floor, usually lined with pipe, in which joints

of drillpipe are temporarily placed.

Natural Gas. A naturally occurring mixture of hydrocarbon gases that is highly compressible and expandable. Methane is the chief constituent of most natural gas (constituting as much as 85% of some natural gases), with lesser amounts of ethane, propane, butane and pentane. Impurities can also be present in large proportions, including carbon dioxide, helium, nitrogen and hydrogen sulfide.

Non-operator. The working interest owner or owners other than the one designated as the operator of a well.

Oil Field. An area which is underlain by one or more reservoirs containing oil. An oil reservoir is a porous and permeable sedimentary rock containing commercial quantities of oil and gas. Three types of reservoirs are encountered including structural traps, stratigraphic traps and combination traps.

Petroleum. A generic name for hydrocarbons, including crude oil, natural gas liquids, natural gas and their products.

Pipelines. A tubular arrangement for the transmission of crude oil, refined products, and natural gas from the wellhead, refinery, and storage facility to the customer. Pipeline measures 14 to 42 inches in diameter, but is usually 20 to 36 inches. It is often composed of 40-foot lengths but lengths may be as long as 60 or 80 feet. The pipe is wrapped and coated for protection against corrosion, especially since it runs underground. About half of all gas and oil is moved by pipelines.

Quad. A quadrillion of Btu's. This unit of measurement is used in connection with energy consumption. A barrel of crude oil contains 5.8 million Btu's. Natural gas contains about one million Btu's per Mscf.

Rig. The structures and equipment used in drilling oil and gas well including the derrick, engine, engine house and other equipment.

Spudding In. The first boring of the hole in the drilling of an oil well.

Stratigraphy. Branch of geology, deals with the scientific knowledge gain from study of rock formation. The word stratigraphy comes from the Latin *stratum* and the Greek *graphia*, which means the descriptive science of layered rocks.

Sedimentary Basin. Geologically depressed area with thick sediments in the interior and thinner sediments at edges.

Upstream. Activities in the oil and gas industry which take place close to the supply. This normally includes exploration and production activities.

Well. A hole drilled in the earth for the purpose of finding or producing crude oil or natural gas or providing services related to the production of crude oil or natural gas.

Injection Well. A well employed for introduction into an underground stratum of water or gas under pressure. Injection wells are employed for the disposal of produced water from oil and gas wells.
Dry Hole. A completed well which is not productive of oil and/or gas or which is not productive of oil or gas in paying quantities.

Well Shut Down. When an oil well is close down temporarily for repairs, cleaning out, building up reservoir pressure, lack of market.

Abandoned Well. A well which has been ceased and plugged off with cement due to being non-productive

Appraisal Well. A well drilled as part of an appraisal drilling programme which is carried out to determine the physical extent, reserves and likely production rate of a field.

Wildcat Well. An exploratory well being drilled in unproven territory, that is, in a horizon from which there is no production in the general area.

Wellhead. The equipment at the surface of a well used to control the pressure; the point at which the hydrocarbons and water exit the ground.